

# **2018 Annual Drinking Water Quality Report**

## **FORNEY LAKE WSC**

### **Contact and Public Participation Information**

Phone Number: 972-771-1199

### **Public Participation Opportunities**

Date: 1st Tuesday of each month

Time: Call for time

Location: 5763 SH 205 South, Ste 101  
Rockwall, TX 75032

TX1290014

FORNEY LAKE W S C

Annual Water Quality Report for the period of January 1 to December 31, 2018

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

FORNEY LAKE WSC is Purchased Surface Water

For more information regarding this report contact:

Name: Robin Baley - Administrative Officer Phone:  
972-771-1199

Este reporte incluye informacion importante sobre el agua para tomar. Para asistencia en espanol, favor de llamar al telefono (972) 771-1199

## Information about your Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at (800) 426-4791.

### Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor, or color of drinking water, please contact the system's business office.

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; persons who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders, can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care providers. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in

(Contaminants that may be present in source water continued)

your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

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## **Where do we get our drinking water?**

The Forney Lake Water Supply purchases treated water from North Texas Municipal Water District (TX0430044) from the Wylie Water Treatment Plant. The water is obtained from surface water sources. The water comes from the following Reservoirs: Lavon located in Collin County, Jim Chapman located in Hopkins and Delta Counties, Texoma located in Grayson County, Tawakoni located in Hunt, Rains, and Van Zandt Counties and East Fork Raw Water Supply Project (Wetland) located in Kaufman County.

### **Information about Source Water Assessments**

TCEQ completed a Source Water Susceptibility for all drinking water systems that own their sources. This report describes the susceptibility and types of constituents that may come into contact with the drinking water source based on human activities and natural conditions. The system(s) from which we purchase our water received the assessment report. For more information on source water assessments and protection efforts at our system contact NTMWD Environmental Services Department at (972) 442-5405 or [environmental.info@ntmwd.com](mailto:environmental.info@ntmwd.com).

Further details about sources and source-water assessments are available in Drinking Water Watch at <http://dww2.tceq.texas.gov/DWW/>

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## **Water Audit Report**

In the water loss audit submitted to the Texas Water Development Board for the time period of January – December 2018, our system lost an estimated ?,???,??? gallons of water. If you have any questions about the water loss audit, please call at 972-771-1199.

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## **Water Quality Test Results**

**The following tables contain scientific term and measures, some of which may require explanation.**

### **Definitions and Abbreviations:**

Action Level:

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

|                                                    |                                                                                                                                                                                                                                                                      |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action Level Goal (ALG):                           | The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.                                                                                                                            |
| Avg:                                               | Regulatory compliance with some MCLs are based on running annual average of monthly samples.                                                                                                                                                                         |
| Level 1 Assessment:                                | A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.                                                                                      |
| Level 2 Assessment:                                | A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions. |
| Maximum Contaminant Level or MCL:                  | The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.                                                                                                  |
| Maximum Contaminant Level Goal or MCLG:            | The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.                                                                                                                           |
| Maximum residual disinfectant level or MRDL:       | The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.                                                                                      |
| Maximum residual disinfectant level goal or MRDLG: | The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.                                                               |
| MFL:                                               | million fibers per liter (a measure of asbestos)                                                                                                                                                                                                                     |
| na:                                                | not applicable.                                                                                                                                                                                                                                                      |
| NTU                                                | nephelometric turbidity units (a measure of turbidity)                                                                                                                                                                                                               |
| pCi/L                                              | picocuries per liter (a measure of radioactivity)                                                                                                                                                                                                                    |
| ppb:                                               | micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.                                                                                                                                                                              |
| ppm:                                               | milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.                                                                                                                                                                                  |
| ppq                                                | parts per quadrillion, or picograms per liter (pg/L)                                                                                                                                                                                                                 |
| ppt                                                | parts per trillion, or nanograms per liter (ng/L)                                                                                                                                                                                                                    |
| Treatment Technique or TT:                         | A required process intended to reduce the level of a contaminant in drinking water.                                                                                                                                                                                  |

## Coliform Bacteria

| Maximum Contaminant Level Goal | I | xw Nx xY | E TNU U | xU x) | x x( | Number of Positive E. coli or Fecal Coliform Samples | Violation | Likely Source of Contamination        |
|--------------------------------|---|----------|---------|-------|------|------------------------------------------------------|-----------|---------------------------------------|
| 0                              |   | s        |         |       |      | 0                                                    | N         | Naturally present in the environment. |

**NOTE:** E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. When E. coli bacteria are found, this indicates the need to look for potential problems in water treatment or distribution. When this occurs, systems are required to conduct level 2 assessment(s) to identify problems and to correct any problems that were found during these assessments.

## Regulated Contaminants

| Disinfectants and Disinfection By-Products | Collection Date | Highest Level Detected         | Range of Levels Detected | MCLG                  | MCL | Units | Violation | Likely Source of Contamination             |
|--------------------------------------------|-----------------|--------------------------------|--------------------------|-----------------------|-----|-------|-----------|--------------------------------------------|
| Total Haloacetic Acids (HAA5)              | 2018            | 20                             | 16 - 29.8                | No goal for the total | 60  | ppb   | No        | By-product of drinking water disinfection. |
| Total Trihalomethanes (TTHM)               | 2018            | 30                             | 21.2 - 29.6              | No goal for the total | 80  | ppb   | No        | By-product of drinking water disinfection. |
| Bromate                                    | 2018            | Levels lower than detect level | 0.0 - 0.0                | 5                     | 10  | ppb   | No        | By-product of drinking water ozonation.    |

**NOTE:** Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future. TCEQ only requires one sample annually for compliance testing.

| Inorganic Contaminants | Collection Date | Highest Level Detected         | Range of Levels Detected | MCLG | MCL | Units | Violation | Likely Source of Contamination                                                                                                       |
|------------------------|-----------------|--------------------------------|--------------------------|------|-----|-------|-----------|--------------------------------------------------------------------------------------------------------------------------------------|
| Antimony               | 2018            | Levels lower than detect level | 0 - 0                    | 6    | 6   | ppb   | No        | Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; and test addition.                              |
| Arsenic                | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 10  | ppb   | No        | Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.                              |
| Barium                 | 2018            | 0.068                          | 0.058 - 0.068            | 2    | 2   | ppm   | No        | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.                                          |
| Beryllium              | 2018            | Levels lower than detect level | 0 - 0                    | 4    | 4   | ppb   | No        | Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries.            |
| Cadmium                | 2018            | Levels lower than detect level | 0 - 0                    | 5    | 5   | ppb   | No        | Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints. |

## Regulated Contaminants (Cont.)

| Inorganic Contaminants         | Collection Date | Highest Level Detected         | Range of Levels Detected | MCLG | MCL | Units | Violation | Likely Source of Contamination                                                                                             |
|--------------------------------|-----------------|--------------------------------|--------------------------|------|-----|-------|-----------|----------------------------------------------------------------------------------------------------------------------------|
| Chromium                       | 2018            | Levels lower than detect level | 0 - 0                    | 100  | 100 | ppb   | No        | Discharge from steel and pulp mills; erosion of natural deposits.                                                          |
| Fluoride                       | 2018            | 0.264                          | 0 - 0.264                | 4    | 4   | ppm   | No        | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories. |
| Mercury                        | 2018            | Levels lower than detect level | 0 - 0                    | 2    | 2   | ppb   | No        | Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland.         |
| Nitrate (measured as Nitrogen) | 2018            | 1                              | 0.85 - 0.85              | 10   | 10  | ppm   | No        | Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.                               |
| Selenium                       | 2018            | Levels lower than detect level | 0 - 0                    | 50   | 50  | ppb   | No        | Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.                          |
| Thallium                       | 2018            | Levels lower than detect level | 0 - 0                    | 0.5  | 2   | ppb   | No        | Discharge from electronics, glass, and leaching from ore-processing sites; drug factories.                                 |

**Nitrate Advisory:** Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

| Radioactive Contaminants                                           | Collection Date | Highest Level Detected         | Range of Levels Detected | MCLG | MCL | Units | Violation | Likely Source of Contamination                                       |
|--------------------------------------------------------------------|-----------------|--------------------------------|--------------------------|------|-----|-------|-----------|----------------------------------------------------------------------|
| Beta/photon emitters                                               | 2018            | 8.0                            | 8.0 - 8.0                | 0    | 50  | pCi/L | No        | Decay of natural and man-made deposits.                              |
| Gross alpha excluding radon and uranium                            | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 15  | pCi/L | No        | Erosion of natural deposits.                                         |
| Radium                                                             | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 5   | pCi/L | No        | Erosion of natural deposits.                                         |
| Synthetic organic contaminants including pesticides and herbicides | Collection Date | Highest Level Detected         | Range of Levels Detected | MCLG | MCL | Units | Violation | Likely Source of Contamination                                       |
| 2, 4, 5 - TP (Silvex)                                              | 2016            | Levels lower than detect level | 0 - 0                    | 50   | 50  | ppb   | No        | Residue of banned herbicide.                                         |
| 2, 4 - D                                                           | 2016            | Levels lower than detect level | 0 - 0                    | 70   | 70  | ppb   | No        | Runoff from herbicide used on row crops.                             |
| Alachlor                                                           | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 2   | ppb   | No        | Runoff from herbicide used on row crops.                             |
| Aldicarb                                                           | 2016            | Levels lower than detect level | 0 - 0                    | 0    | 2   | ppb   | No        | Runoff from pesticide used on row crops.                             |
| Aldicarb Sulfone                                                   | 2016            | Levels lower than detect level | 0 - 0                    | 0    | 2   | ppb   | No        | Runoff from pesticide used on row crops.                             |
| Aldicarb Sulfoxide                                                 | 2016            | Levels lower than detect level | 0 - 0                    | 0    | 4   | ppb   | No        | Runoff from pesticide used on row crops.                             |
| Atrazine                                                           | 2018            | 0.30                           | 0.20 - 0.30              | 3    | 3   | ppb   | No        | Runoff from herbicide used on row crops.                             |
| Benzo (a) pyrene                                                   | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 200 | ppt   | No        | Leaching from linings of water storage tanks and distribution lines. |
| Carbofuran                                                         | 2016            | Levels lower than detect level | 0 - 0                    | 40   | 40  | ppb   | No        | Leaching of soil fumigant used on rice and alfalfa.                  |
| Chlordane                                                          | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 2   | ppb   | No        | Residue of banned termiticide.                                       |

## Regulated Contaminants (Cont.)

| Synthetic organic contaminants including pesticides and herbicides | Collection Date | Highest Level Detected         | Range of Levels Detected | MCLG | MCL | Units | Violation | Likely Source of Contamination                                                           |
|--------------------------------------------------------------------|-----------------|--------------------------------|--------------------------|------|-----|-------|-----------|------------------------------------------------------------------------------------------|
| Dalapon                                                            | 2016            | Levels lower than detect level | 0 - 0                    | 200  | 200 | ppb   | No        | Runoff from herbicide used on rights of way.                                             |
| Di (2-ethylhexyl) adipate                                          | 2018            | Levels lower than detect level | 0 - 0                    | 400  | 400 | ppb   | No        | Discharge from chemical factories.                                                       |
| Di (2-ethylhexyl) phthalate                                        | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 6   | ppb   | No        | Discharge from rubber and chemical factories.                                            |
| Dibromochloropropane (DBCP)                                        | 2016            | Levels lower than detect level | 0 - 0                    | 0    | 200 | ppt   | No        | Runoff / leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards. |
| Dinoseb                                                            | 2016            | Levels lower than detect level | 0 - 0                    | 7    | 7   | ppb   | No        | Runoff from herbicide used on soybeans and vegetables.                                   |
| Endrin                                                             | 2018            | Levels lower than detect level | 0 - 0                    | 2    | 2   | ppb   | No        | Residue of banned insecticide.                                                           |
| Ethylene dibromide                                                 | 2016            | Levels lower than detect level | 0 - 0                    | 0    | 50  | ppt   | No        | Discharge from petroleum refineries.                                                     |
| Heptachlor                                                         | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 400 | ppt   | No        | Residue of banned termiticide.                                                           |
| Heptachlor epoxide                                                 | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 200 | ppt   | No        | Breakdown of heptachlor.                                                                 |
| Hexachlorobenzene                                                  | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 1   | ppb   | No        | Discharge from metal refineries and agricultural chemical factories.                     |
| Hexachlorocyclopentadiene                                          | 2018            | Levels lower than detect level | 0 - 0                    | 50   | 50  | ppb   | No        | Discharge from chemical factories.                                                       |
| Lindane                                                            | 2018            | Levels lower than detect level | 0 - 0                    | 200  | 200 | ppt   | No        | Runoff / leaching from insecticide used on cattle, lumber, and gardens.                  |
| Methoxychlor                                                       | 2018            | Levels lower than detect level | 0 - 0                    | 40   | 40  | ppb   | No        | Runoff / leaching from insecticide used on fruits, vegetables, alfalfa, and livestock.   |
| Oxamyl [Vydate]                                                    | 2016            | Levels lower than detect level | 0 - 0                    | 200  | 200 | ppb   | No        | Runoff / leaching from insecticide used on apples, potatoes, and tomatoes.               |
| Pentachlorophenol                                                  | 2016            | Levels lower than detect level | 0 - 0                    | 0    | 1   | ppb   | No        | Discharge from wood preserving factories.                                                |
| Picloram                                                           | 2016            | Levels lower than detect level | 0 - 0                    | 500  | 500 | ppb   | No        | Herbicide runoff.                                                                        |
| Simazine                                                           | 2018            | 0.13                           | 0 - 0.13                 | 4    | 4   | ppb   | No        | Herbicide runoff.                                                                        |
| Toxaphene                                                          | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 3   | ppb   | No        | Runoff / leaching from insecticide used on cotton and cattle.                            |
| Volatile Organic Contaminants                                      | Collection Date | Highest Level Detected         | Range of Levels Detected | MCLG | MCL | Units | Violation | Likely Source of Contamination                                                           |
| 1, 1, 1 - Trichloroethane                                          | 2018            | Levels lower than detect level | 0 - 0                    | 200  | 200 | ppb   | No        | Discharge from metal degreasing sites and other factories.                               |
| 1, 1, 2 - Trichloroethane                                          | 2018            | Levels lower than detect level | 0 - 0                    | 3    | 5   | ppb   | No        | Discharge from industrial chemical factories.                                            |
| 1, 1 - Dichloroethylene                                            | 2018            | Levels lower than detect level | 0 - 0                    | 7    | 7   | ppb   | No        | Discharge from industrial chemical factories.                                            |

## Regulated Contaminants (Cont.)

| Volatile Organic Contaminants   | Collection Date | Highest Level Detected         | Range of Levels Detected | MCLG | MCL | Units | Violation | Likely Source of Contamination                                           |
|---------------------------------|-----------------|--------------------------------|--------------------------|------|-----|-------|-----------|--------------------------------------------------------------------------|
| 1, 2, 4 - Trichlorobenzene      | 2018            | Levels lower than detect level | 0 - 0                    | 70   | 70  | ppb   | No        | Discharge from textile-finishing factories.                              |
| 1, 2 - Dichloroethane           | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 5   | ppb   | No        | Discharge from industrial chemical factories.                            |
| 1, 2 - Dichloropropane          | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 5   | ppb   | No        | Discharge from industrial chemical factories.                            |
| Benzene                         | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 5   | ppb   | No        | Discharge from factories; leaching from gas storage tanks and landfills. |
| Carbon Tetrachloride            | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 5   | ppb   | No        | Discharge from chemical plants and other industrial activities.          |
| Chlorobenzene                   | 2018            | Levels lower than detect level | 0 - 0                    | 100  | 100 | ppb   | No        | Discharge from chemical and agricultural chemical factories.             |
| Dichloromethane                 | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 5   | ppb   | No        | Discharge from pharmaceutical and chemical factories.                    |
| Ethylbenzene                    | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 700 | ppb   | No        | Discharge from petroleum refineries.                                     |
| Styrene                         | 2018            | Levels lower than detect level | 0 - 0                    | 100  | 100 | ppb   | No        | Discharge from rubber and plastic factories; leaching from landfills.    |
| Tetrachloroethylene             | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 5   | ppb   | No        | Discharge from factories and dry cleaners.                               |
| Toluene                         | 2018            | Levels lower than detect level | 0 - 0                    | 1    | 1   | ppm   | No        | Discharge from petroleum factories.                                      |
| Trichloroethylene               | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 5   | ppb   | No        | Discharge from metal degreasing sites and other factories.               |
| Vinyl Chloride                  | 2018            | Levels lower than detect level | 0 - 0                    | 0    | 2   | ppb   | No        | Leaching from PVC piping; discharge from plastics factories.             |
| Xylenes                         | 2018            | Levels lower than detect level | 0 - 0                    | 10   | 10  | ppm   | No        | Discharge from petroleum factories; discharge from chemical factories.   |
| cis - 1, 2 - Dichloroethylene   | 2018            | Levels lower than detect level | 0 - 0                    | 70   | 70  | ppb   | No        | Discharge from industrial chemical factories.                            |
| o - Dichlorobenzene             | 2018            | Levels lower than detect level | 0 - 0                    | 600  | 600 | ppb   | No        | Discharge from industrial chemical factories.                            |
| p - Dichlorobenzene             | 2018            | Levels lower than detect level | 0 - 0                    | 75   | 75  | ppb   | No        | Discharge from industrial chemical factories.                            |
| trans - 1, 2 - Dichloroethylene | 2018            | Levels lower than detect level | 0 - 0                    | 100  | 100 | ppb   | No        | Discharge from industrial chemical factories.                            |

## Turbidity

|                                                    | Limit<br>(Treatment Technique) | Level Detected | Violation | Likely Source of Contamination |
|----------------------------------------------------|--------------------------------|----------------|-----------|--------------------------------|
| <b>Highest single measurement</b>                  | 1 NTU                          | 0.45           | No        | Soil runoff.                   |
| <b>Lowest monthly percentage (%) meeting limit</b> | 0.3 NTU                        | 99.10%         | No        | Soil runoff.                   |

**NOTE:** Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration.



## Maximum Residual Disinfectant Level

| Disinfectant Type               | Year | Average Level of Quarterly Data | Lowest Result of Single Sample | Highest Result of Single Sample | MRDL | MRDLG | Units | Source of Chemical                     |
|---------------------------------|------|---------------------------------|--------------------------------|---------------------------------|------|-------|-------|----------------------------------------|
| Chlorine Residual (Chloramines) | 2018 | 1.89                            | 1.2                            | 3.6                             | 4.0  | <4.0  | ppm   | Disinfectant used to control microbes. |
| Chlorine Dioxide                | 2018 | 0                               | 0                              | 0                               | 0.8  | 0.8   | ppm   | Disinfectant.                          |
| Chlorite                        | 2018 | 0.012                           | 0                              | 0.48                            | 1.0  | N/A   | ppm   | Disinfectant.                          |

**NOTE:** Water providers are required to maintain a minimum chlorine disinfection residual level of 0.5 parts per million (ppm) for systems disinfecting with chloramines and an annual average chlorine disinfection residual level between 0.5 (ppm) and 4 parts per million (ppm). Water systems using free chlorine are required to maintain a minimum chlorine disinfection residual level of 0.2 parts per million (ppm). The 0.21 ppm result was sampled during our temporary change in disinfectant from chloramines to free chlorine.

## Total Organic Carbon

| Collection Date | Highest Level Detected | Range of Levels Detected | Units       | Likely Source of Contamination |                                       |
|-----------------|------------------------|--------------------------|-------------|--------------------------------|---------------------------------------|
| Source Water    | 2018                   | 4.70                     | 3.68 - 4.70 | ppm                            | Naturally present in the environment. |
| Drinking Water  | 2018                   | 3.00                     | 1.85 - 3.00 | ppm                            | Naturally present in the environment. |
| Removal Ratio   | 2018                   | 54.4%                    | 26.5 - 54.4 | % removal *                    | N/A                                   |

**NOTE:** Total organic carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection by-products. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. By-products of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

\* Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.

## Cryptosporidium and Giardia

| Contaminants    | Collection Date | Highest Level Detected | Range of Levels Detected | Units        | Likely Source of Contamination |
|-----------------|-----------------|------------------------|--------------------------|--------------|--------------------------------|
| Cryptosporidium | 2018            | 0                      | 0 - 0                    | (Oo) Cysts/L | Human and animal fecal waste.  |
| Giardia         | 2018            | 0                      | 0 - 0                    | (Oo) Cysts/L | Human and animal fecal waste.  |

## Lead and Copper

| Lead and Copper | Date Sampled | Action Level (AL) | 90th Percentile | # Sites Over AL | Units | Violation | Likely Source of Contamination                                                                          |
|-----------------|--------------|-------------------|-----------------|-----------------|-------|-----------|---------------------------------------------------------------------------------------------------------|
| Copper          | 2016         | 1.3               | 0.58            | 30              | ppm   | No        | Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems. |
| Lead            | 2017         | 15                | 4.6             | 30              | ppb   | No        | Corrosion of household plumbing systems; erosion of natural deposits.                                   |

**ADDITIONAL HEALTH INFORMATION FOR LEAD:** If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Rockwall and FLW WSC are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

## Unregulated Contaminants

| Contaminants         | Collection Date | Highest Level Detected | Range of Levels Detected | Units | Likely Source of Contamination             |
|----------------------|-----------------|------------------------|--------------------------|-------|--------------------------------------------|
| Chloroform           | 2018            | 19.6                   | 5.99-19.60               | ppb   | By-product of drinking water disinfection. |
| Bromoform            | 2018            | 2.8                    | 1.00-2.82                | ppb   | By-product of drinking water disinfection. |
| Bromodichloromethane | 2018            | 12.8                   | 7.67-12.80               | ppb   | By-product of drinking water disinfection. |
| Dibromochloromethane | 2018            | 8.8                    | 3.90-8.83                | ppb   | By-product of drinking water disinfection. |

**NOTE:** Bromoform, chloroform, dichlorobromomethane, and dibromochloromethane are disinfection by-products. There is no maximum contaminant level for these chemicals at the entry point to distribution.

## UCMR 4 Unregulated Contaminants

| Contaminants       | Collection Date | MRL <sup>2</sup> (ug/L) | Range of Levels Detected | MCL | MCLC | Units | Likely Source of Contamination                                                              |
|--------------------|-----------------|-------------------------|--------------------------|-----|------|-------|---------------------------------------------------------------------------------------------|
| Anatoxin - a       | 2018            | 0.03                    | <0.03                    | N/A | N/A  | ppb   | Cyanobacteria which are found naturally in lakes, streams, ponds, and other surface waters. |
| Cylindrospermopsin | 2018            | 0.09                    | <0.09                    | N/A | N/A  | ppb   | Cyanobacteria which are found naturally in lakes, streams, ponds, and other surface waters. |
| Total Microcystins | 2018            | 0.3                     | <0.3                     | N/A | N/A  | ppb   | Cyanobacteria which are found naturally in lakes, streams, ponds, and other surface waters. |

**UCMR 4: Unregulated Contaminants Monitoring Rule 4:** The UCMR program was developed in coordination with the Containment Candidate List (CCL). The CCL is a list of contaminants that are not regulated by the National Primary Drinking Water Regulations, are known or anticipated to occur at public water systems and may warrant regulations under the Safe Drinking Water Act. Data collected through the UCMR are stored in the National Occurrence Data Base (NCOD) to support analysis and review of contaminant occurrence, to guide the CCL selection process and to support the Administrator's determination of whether to regulate a contaminant in the interest of protecting public health. For additional information visit:

<https://www.epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule>

## Secondary and Other Constituents Not Regulated

| Contaminants                          | Collection Date | Highest Level Detected         | Range of Levels Detected | Units | Likely Source of Contamination                                                                      |
|---------------------------------------|-----------------|--------------------------------|--------------------------|-------|-----------------------------------------------------------------------------------------------------|
| Aluminum                              | 2018            | Levels lower than detect level | 0 - 0                    | ppm   | Erosion of natural deposits.                                                                        |
| Calcium                               | 2018            | 55.3                           | 43.6 - 55.3              | ppm   | Abundant naturally occurring element.                                                               |
| Chloride                              | 2018            | 93.7                           | 30.8 - 93.7              | ppm   | Abundant naturally occurring element; used in water purification; by-product of oil field activity. |
| Iron                                  | 2018            | Levels lower than detect level | 0 - 0                    | ppm   | Erosion of natural deposits; iron or steel water delivery equipment or facilities.                  |
| Magnesium                             | 2018            | 9.61                           | 9.18 - 9.61              | ppm   | Abundant naturally occurring element.                                                               |
| Manganese                             | 2018            | 0.0064                         | 0.0037 - 0.0064          | ppm   | Abundant naturally occurring element.                                                               |
| Nickel                                | 2018            | 0.0055                         | 0.0053 - 0.0055          | ppm   | Erosion of natural deposits.                                                                        |
| pH                                    | 2018            | 8.51                           | 7.83 - 8.51              | units | Measure of corrosivity of water.                                                                    |
| Silver                                | 2018            | 0.001                          | 0 - 0.001                | ppm   | Erosion of natural deposits.                                                                        |
| Sodium                                | 2018            | 88.6                           | 86.8 - 88.6              | ppm   | Erosion of natural deposits; by-product of oil field activity.                                      |
| Sulfate                               | 2018            | 134                            | 86 - 134                 | ppm   | Naturally occurring; common industrial by-product; by-product of oil field activity.                |
| Total Alkalinity as CaCO <sub>3</sub> | 2018            | 101                            | 65 - 101                 | ppm   | Naturally occurring soluble mineral salts.                                                          |
| Total Dissolved Solids                | 2018            | 556                            | 288 - 556                | ppm   | Total dissolved mineral constituents in water.                                                      |
| Total Hardness as CaCO <sub>3</sub>   | 2018            | 188                            | 105 - 188                | ppm   | Naturally occurring calcium.                                                                        |
| Zinc                                  | 2018            | Levels lower than detect level | 0 - 0                    | ppm   | Moderately abundant naturally occurring element used in the metal industry.                         |

# Violatons Table

## Chlorine

Some people who use water containing Chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.

| Violation Type                         | Violation Begin | Violation End | Violation Explanation                                                                                                 |
|----------------------------------------|-----------------|---------------|-----------------------------------------------------------------------------------------------------------------------|
| Public Notice Rule Linked to Violation | 01/16/2017      | 2018          | We failed to adequately notify you, our drinking water consumer, about a violation of the drinking water regulations. |
| Public Notice Rule Linked to Violation | 09/25/2017      | 2018          | We failed to adequately notify you, our drinking water consumer, about a violation of the drinking water regulations. |